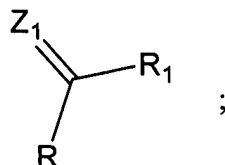


CLAIMS AS ALLOWED 12/16/03

1. A compound represented by the following structural formula:

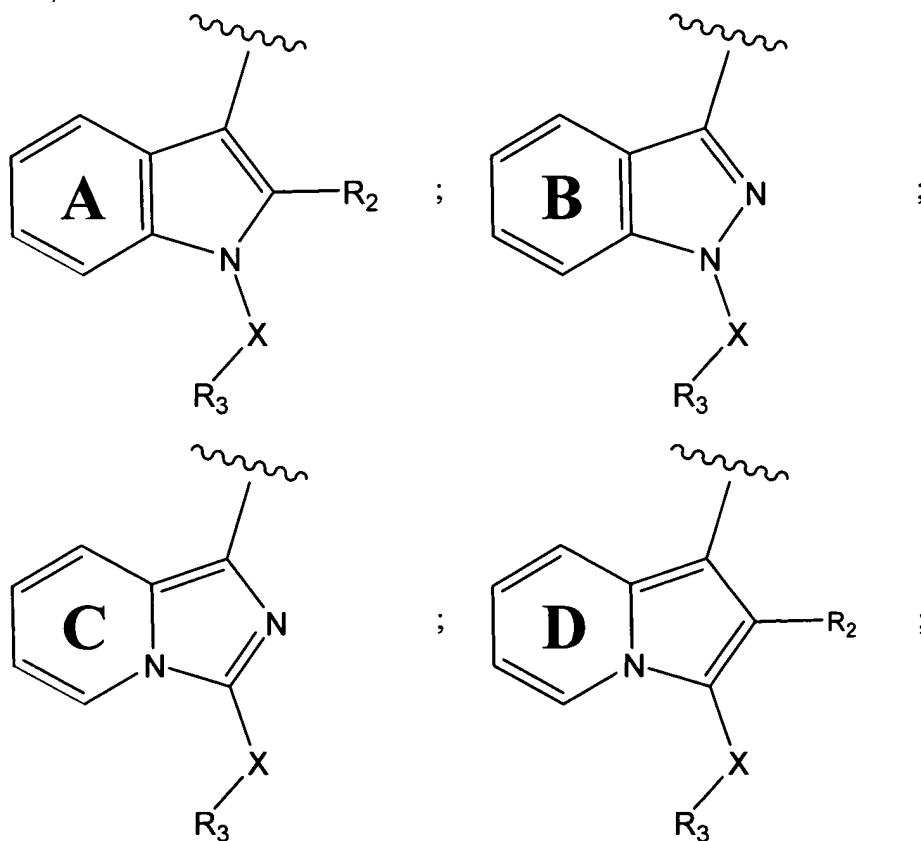


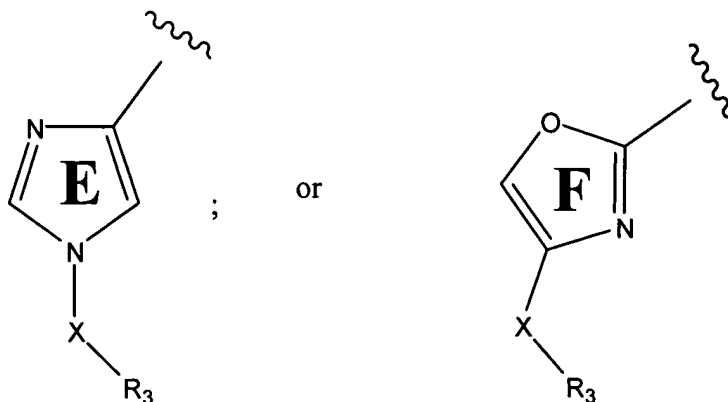
or a pharmaceutically acceptable salt thereof, wherein:

$R_1$  is a substituted or unsubstituted 2-imidazolyl group which is optionally fused to a substituted or unsubstituted aryl group;

$Z_1$  is =O, =S, =N-OR<sub>11</sub> and =NR<sub>11</sub>

R is represented by a structural formula selected from:





Rings **A-F** are independently substituted or unsubstituted and are optionally fused to an aryl group;

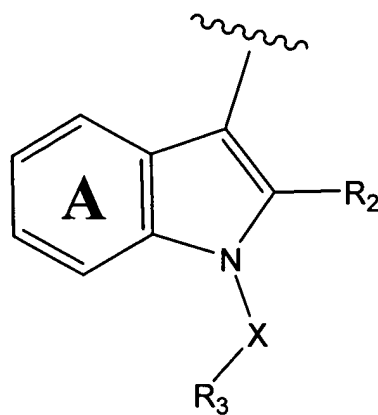
$R_2$  is -H, a substituted or unsubstituted alkyl group or a substituted or unsubstituted aryl group;

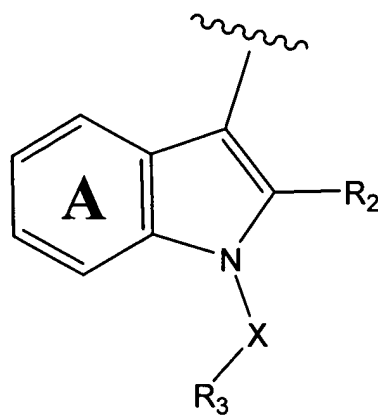
$R_3$  is a substituted or unsubstituted aryl group or a substituted or unsubstituted aliphatic group; and

X is a covalent bond,  $-C(R_4R_5)-$ ,  $-N(R_4)-$ ,  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-C(=O)-$ ,  $-C(=O)-N(R_4)-$  or  $-N(R_4)-C(=O)-$ ;

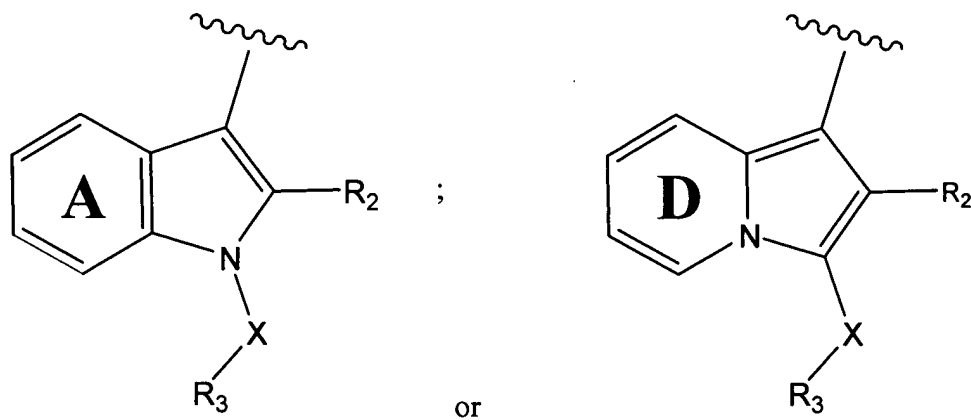
$R_4$  and  $R_5$  are independently -H, an aliphatic group or a substituted aliphatic group;

$R_{11}$  is -H or a substituted or unsubstituted alkyl group,



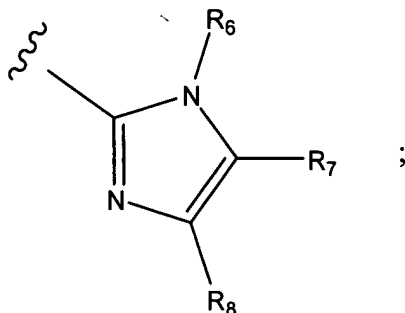
provided that when R is represented by , then X is not -S(O)- or -S(O)<sub>2</sub>- and R<sub>3</sub> is not an aliphatic or substituted aliphatic group.

2. The compound of Claim 1 wherein X is a covalent bond, -C(R<sub>4</sub>R<sub>5</sub>)-, -N(R<sub>4</sub>)-, -O-, C(=O)-, -C(=O)-N(R<sub>4</sub>)- or -N(R<sub>4</sub>)-C(=O)- and R<sub>3</sub> is a substituted or unsubstituted aryl group.
3. The compound of Claim 2 wherein R is represented by a structural formula selected from:



4. The compound of Claim 3 wherein Rings A-F are a substituted or unsubstituted phenyl group; R<sub>2</sub> is -H; Z<sub>1</sub> is =O; and X is -C(R<sub>4</sub>R<sub>5</sub>)-, -N(R<sub>4</sub>)- or -O-.

5. The compound of Claim 4 wherein X is  $-C(R_4R_5)-$ .
6. The compound of Claim 5 wherein  $R_1$  is represented by the following structural formula:



wherein:

$R_6$  is  $-H$ , an unsubstituted aliphatic group or a substituted aliphatic group,  $-C(O)R^g$ ,  $-S(O)_2-R^g$  or  $-S(O)_2-N(R^g)_2$ ;

$R_7$  and  $R_8$  are independently  $-H$ ,  $-OH$ ,  $-Br$ ,  $-Cl$ ,  $-I$ ,  $-F$ ,  $-OR^a$ ,  $-O-COR^a$ ,  $-COR^a$ ,  $-CN$ ,  $-NO_2$ ,  $-COOH$ ,  $-SO_3H$ ,  $-NH_2$ ,  $-NHR^a$ ,  $-N(R^aR^b)$ ,  $-COOR^a$ ,  $-CHO$ ,  $-CONH_2$ ,  $-CONHR^a$ ,  $-CON(R^aR^b)$ ,  $-NHCOR^a$ ,  $-NRCOR^a$ ,  $-NHCONH_2$ ,  $-NHCONR^aH$ ,  $-NHCON(R^aR^b)$ ,  $-NR^cCONH_2$ ,  $-NR^cCONR^aH$ ,  $-NR^cCON(R^aR^b)$ ,  $-C(=NH)-NH_2$ ,  $-C(=NH)-NHR^a$ ,  $-C(=NH)-N(R^aR^b)$ ,  $-C(=NR^c)-NH_2$ ,  $-C(=NR^c)-NHR^a$ ,  $-C(=NR^c)-N(R^aR^b)$ ,  $-NH-C(=NH)-NH_2$ ,  $-NH-C(=NH)-NHR^a$ ,  $-NH-C(=NH)-N(R^aR^b)$ ,  $-NH-C(=NR^c)-NH_2$ ,  $-NH-C(=NR^c)-NHR^a$ ,  $-NH-C(=NR^c)-N(R^aR^b)$ ,  $-NR^dH-C(=NH)-NH_2$ ,  $-NR^d-C(=NH)-NHR^a$ ,  $-NR^d-C(=NH)-N(R^aR^b)$ ,  $-NR^d-C(=NR^c)-NH_2$ ,  $-NR^d-C(=NR^c)-NHR^a$ ,  $-NR^d-C(=NR^c)-N(R^aR^b)$ ,  $-NHNH_2$ ,  $-NHNHR^a$ ,  $-NHR^aR^b$ ,  $-SO_2NH_2$ ,  $-SO_2NHR^a$ ,  $-SO_2NR^aR^b$ ,  $-CH=CHR^a$ ,  $-CH=CR^aR^b$ ,  $-CR^c=CR^aR^b$ ,  $-CR^c=CHR^a$ ,  $-CR^c=CR^aR^b$ ,  $-CCR^a$ ,  $-SH$ ,  $-SR^a$ ,  $-S(O)R^a$ ,  $-S(O)_2R^a$ , alkyl groups, substituted alkyl group, non-aromatic heterocyclic group, substituted non-aromatic heterocyclic group, benzyl group, substituted benzyl group, aryl group or substituted aryl group;

$R^a-R^d$  are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aryl or substituted aryl group, or,

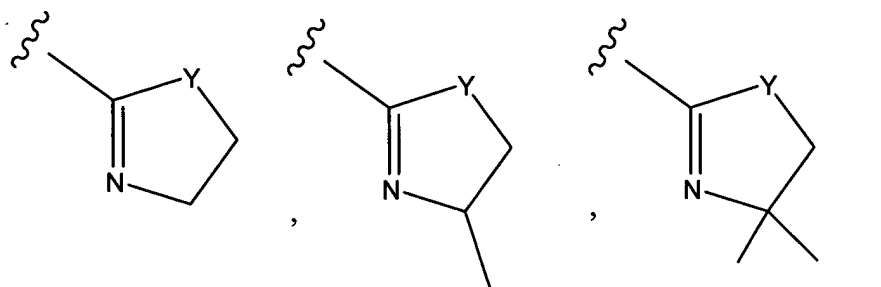
-N(R<sup>a</sup>R<sup>b</sup>), taken together, can also form a substituted or unsubstituted non-aromatic heterocyclic group; and

R<sup>g</sup> is -H or a substituted or unsubstituted aliphatic group.

7. The compound of Claim 6 wherein:

R<sub>6</sub> is -H, C1-C4 alkyl, C1-C4 hydroxyalkyl, -(C1-C4 alkylene)-O-(C1-C4 alkylene)-tri(C1-C4 alkyl)silane, -S(O)<sub>2</sub>N(C1-C4 alkyl)<sub>2</sub>, -S(O)<sub>2</sub>NH(C1-C4 alkyl) or -S(O)<sub>2</sub>NH<sub>2</sub>;

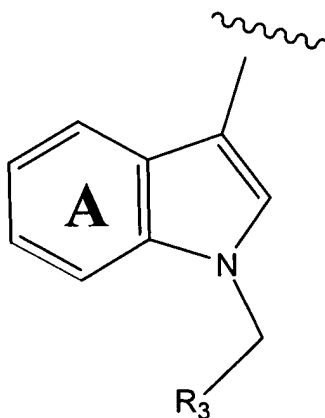
R<sub>7</sub> and R<sub>8</sub> are independently -H, C1-C4 alkyl, C1-C4 hydroxylalkyl, (C1-C4 alkyl)<sub>3</sub>-Si-O-(C1-C4 alkylene), pyridyl, C1-C4 alkyl substituted with pyridyl, C1-C4 alkyl substituted with -NH-pyridyl, C1-C4 hydroxyalkyl substituted with -NH-pyridyl, C1-C4 hydroxyalkyl substituted with -pyridyl, -S(O)<sub>2</sub>-(phenyl), -S(O)<sub>2</sub>-(tolulyl),



-C(O)-pyridyl, indolyl, -(C1-C4 alkylene)-O-(C1-C4 alkyl), C1-C4 alkyl substituted with -O-pyridyl, -CHO, -C(O)-O-(C1-C4 alkyl), -C(O)-NH-(C1-C4 alkyl), -C(O)-(C1-C4 alkylene)-pyridyl, oxazoliny, -C(O)-(C1-C4 alkyl), -C=N-NH-phenyl, -C(O)-NH-pyridyl, -C(O)-NH-phenyl, -C=N-NH-(C1-C4 alkyl), -C=N-N-(C1-C4 alkyl)<sub>2</sub>, -C(O)-NH-(C1-C4 alkyl), -C(O)-N-(C1-C4 alkyl)<sub>2</sub>, -C(O)-(N-morpholino), -C(O)-imidazolyl, -C(O)-NH-(C1-C4 haloalkyl), -C(O)-N-(C1-C4 haloalkyl)<sub>2</sub>, -CH<sub>2</sub>-N<sub>3</sub>, C1-C4 alkyl substituted with imidazolyl, -C1-C4 alkylene-NHC(O)-(C1-C4 alkyl), -C1-C4 alkylene-NHC(O)-(phenyl), -(C1-C4 alkylene)-NHC(O)-(tolulyl), -C1-C4-alkylene-NHC(O)-(methoxy, dimethoxy or trimethoxyphenyl); and

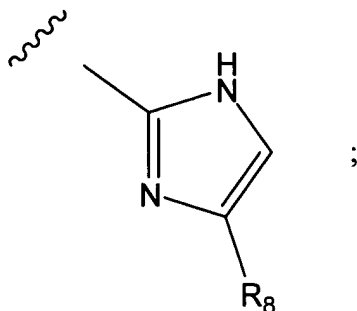
Y is -S-, -O- or -N(H or C1-C4 alkyl or substituted alkyl)-.

8. The compound of Claim 7 wherein  $R_4$  and  $R_5$  are both -H; and  $R_3$  is a substituted or unsubstituted phenyl or pyridyl group.
9. The compound of Claim 8 wherein Rings **A** and **D** are unsubstituted or substituted with one or more groups selected from -F, -Cl, -Br, -C1-C4 alkyl, C1-C4 alkoxy, -C1-C4 haloalkyl, C1-C4 haloalkoxy, -CN or -NH<sub>2</sub>.
10. The compound of Claim 9 wherein R is represented by the following structural formula:

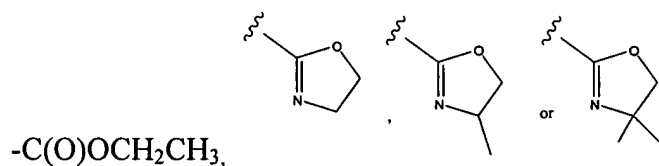


11. The compound of Claim 10 wherein:  
 $R_3$  is a phenyl or pyridyl group substituted with zero, one or more groups selected from -Br, -Cl, -F, -R<sup>e</sup>, -OR<sup>e</sup>, -CN, -COOR<sup>e</sup>, -N(R<sup>e</sup>)<sub>2</sub>, -CON(R<sup>e</sup>)<sub>2</sub>, -NR<sup>e</sup>COR<sup>f</sup>, -NHCONH<sub>2</sub> and -SO<sub>2</sub> N(R<sup>e</sup>)<sub>2</sub>; and  
 each R<sub>e</sub> and R<sub>f</sub> are independently selected from -H, alkyl or substituted alkyl.
12. The compound of Claim 11 wherein:  
 $R_3$  is a phenyl group substituted with zero, one or more groups selected from -Cl, -F, -R<sup>e</sup>, -OR<sup>e</sup>, -CN, -NH<sub>2</sub>, -CONH<sub>2</sub> or -NHCOR<sup>f</sup>.

13. The compound of Claim 12 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-CH_3$ ,  $-CH_2CH_3$ ,  $-F$ ,  $-Cl$ ,  $-CN$  or  $-OCH_3$ .
14. The compound of Claim 13 wherein  $R_3$  is an unsubstituted phenyl group or a phenyl group monosubstituted with  $-CH_3$ ,  $-CH_2CH_3$ ,  $-F$ ,  $-Cl$ ,  $-CN$  or  $-OCH_3$ , wherein the phenyl group substituent is at the *para* position.
15. The compound of Claim 14 wherein  $R_1$  is represented by the following structural formula:

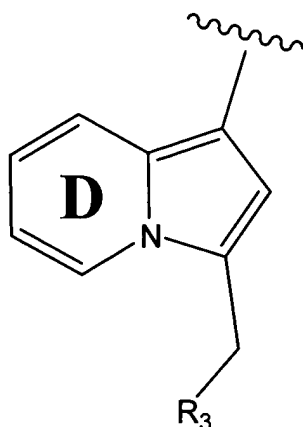


and  $R_8$  is  $-C(O)NH_2$ ,  $-C(O)CH_3$ ,  $-C(O)CH_2CH_3$ , 2-pyridyl,  $-C(O)OCH_3$ ,



16. The compound of Claim 15 wherein Ring A is unsubstituted.
17. The compound of Claim 9 wherein R is represented by the following structural formula:

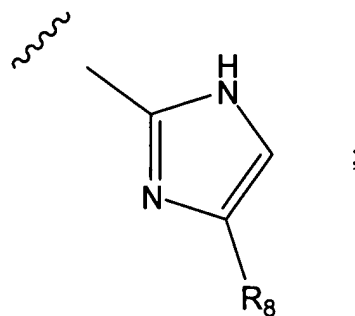
- 8 -



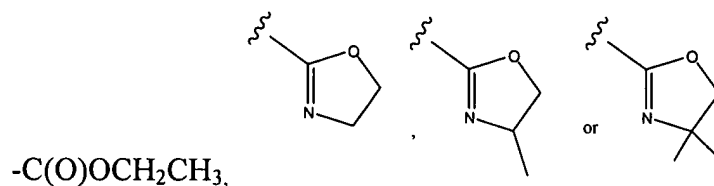
18. The compound of Claim 17 wherein  $R_3$  is a phenyl or pyridyl group substituted with zero, one or more groups selected from  $-Br$ ,  $-Cl$ ,  $-F$ ,  $-R^e$ ,  $-OR^e$ ,  $-CN$ ,  $-COOR^e$ ,  $-N(R^e)_2$ ,  $-CON(R^e)_2$ ,  $-NR^eCOR^f$ ,  $-NHCONH_2$  and  $-SO_2 N(R^e)_2$ ; and each  $R^e$  and  $R^f$  are independently selected from  $-H$ , alkyl or substituted alkyl.
19. The compound of Claim 18 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-Cl$ ,  $-F$ ,  $-R^e$ ,  $-OR^e$ ,  $-CN$ ,  $-NH_2$ ,  $-CONH_2$  or  $-NHCOR^f$ .
20. The compound of Claim 19 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-CH_3$ ,  $-CH_2CH_3$ ,  $-F$ ,  $-Cl$ ,  $-CN$  or  $-OCH_3$ .
21. The compound of Claim 20 wherein  $R_3$  is an unsubstituted phenyl group or a phenyl group monosubstituted with  $-CH_3$ ,  $-CH_2CH_3$ ,  $-F$ ,  $-Cl$ ,  $-CN$  or  $-OCH_3$ , wherein the phenyl group substituent is at the *para* position.
22. The compound of Claim 21 wherein  $R_1$  is represented by the following structural formula:



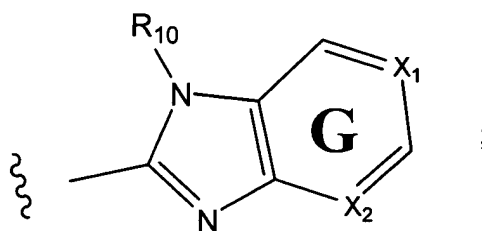
- 9 -



and  $R_8$  is  $-C(O)NH_2$ ,  $-C(O)CH_3$ ,  $-C(O)CH_2CH_3$ , 2-pyridyl,  $-C(O)OCH_3$ , -



23. The compound of Claim 22 wherein Ring **D** is unsubstituted.
24. The compound of Claim 1 wherein  $R_1$  is represented by the following structural formula:



wherein:

$R_{10}$  is  $-H$ , an unsubstituted aliphatic group or a substituted aliphatic group,  $-C(O)-R^g$ ,  $-S(O)_2-R^g$ ,  $-S(O)_2-N(R^g)_2$ ;

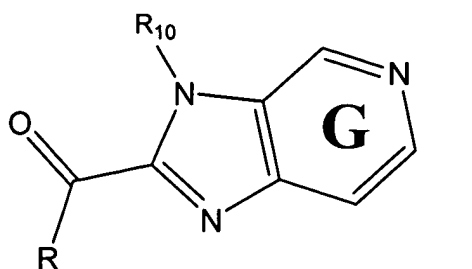
$X_1$  and  $X_2$  are independently  $-CH-$  or  $-N-$ ;

Ring **G** is substituted or unsubstituted; and

each  $R^g$  is  $-H$  or a substituted or unsubstituted aliphatic group.

25. A compound represented by the following structural formula:

- 10 -

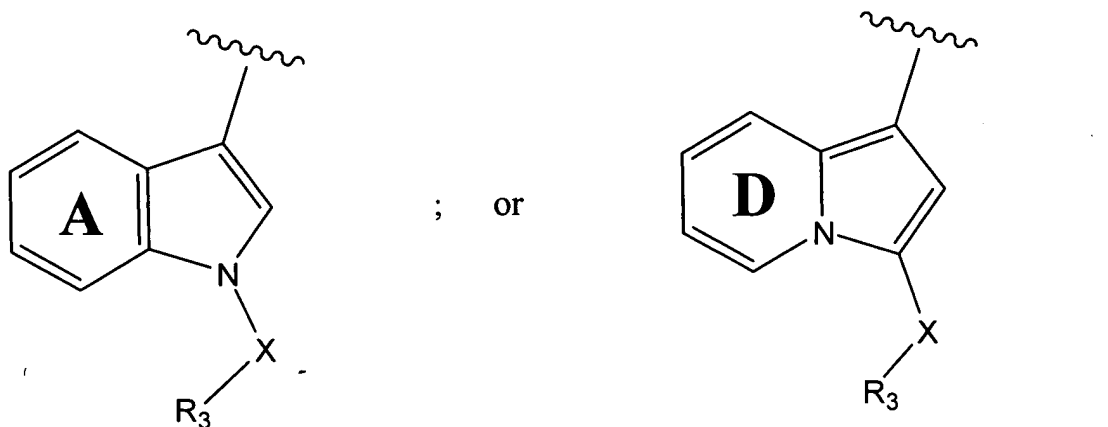


or a pharmaceutically acceptable salt thereof, wherein:

Ring **G** is substituted or unsubstituted;

$R_{10}$  is -H or a C1-C4 alkyl group;

R is represented by a structural formula selected from:



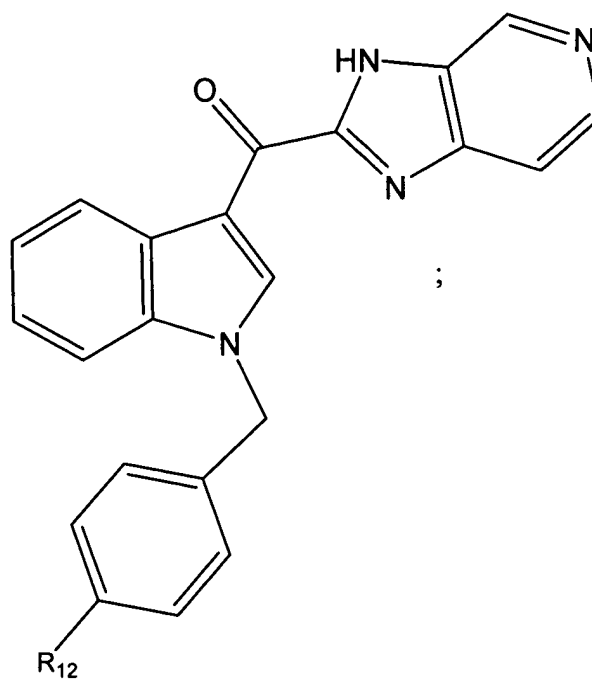
wherein Rings **A** and **D** are substituted or unsubstituted; X is  $-C(R_4R_5)-$ ,  $-O-$  or  $-NR_4-$ ; and  $R_3$  is a substituted or unsubstituted phenyl or pyridyl group.

26. The compound of Claim 25 wherein X is  $-C(R_4R_5)-$ .
27. The compound of Claim 26 wherein X is  $-CH_2-$  and Ring **G** is unsubstituted.
28. The compound of Claim 25 wherein:

Rings **A** and **D** are unsubstituted or substituted with one or more substituents selected from -F, -Cl, -Br, -C1-C4 alkyl, C1-C4 alkoxy, -C1-C4 haloalkyl, C1-C4 haloalkoxy, -CN or -NH<sub>2</sub>;

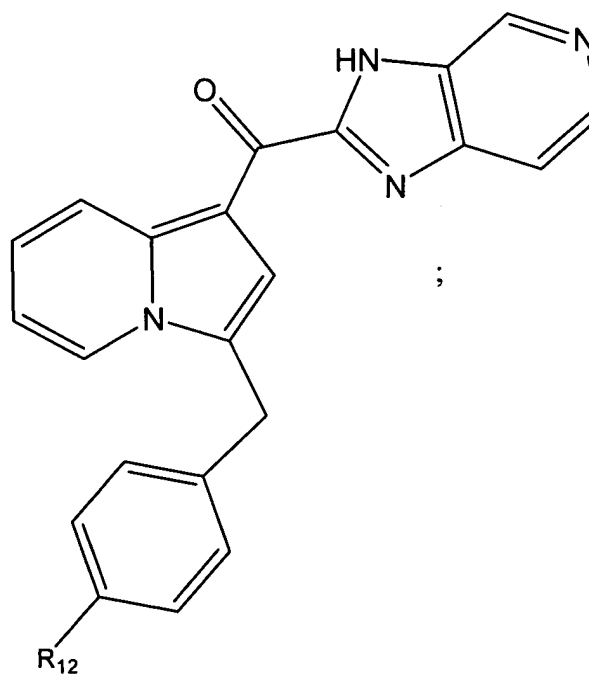
R<sub>3</sub> is a phenyl or pyridyl group substituted with zero, one or more groups selected from -Br, -Cl, -F, -R<sup>e</sup>, -OR<sup>e</sup>, -CN, -COOR<sup>e</sup>, -N(R<sup>e</sup>)<sub>2</sub>, -CON(R<sup>e</sup>)<sub>2</sub>, -NR<sup>e</sup>COR<sup>f</sup>, -NHCONH<sub>2</sub> and -SO<sub>2</sub> N(R<sup>e</sup>)<sub>2</sub>; and each R<sup>e</sup> and R<sup>f</sup> are independently selected from -H, alkyl or substituted alkyl.

29. The compound of Claim 28 wherein R<sub>3</sub> is a phenyl group substituted with zero, one or more groups selected from -Cl, -F, -R<sup>e</sup>, -OR<sup>e</sup>, -CN, -NH<sub>2</sub>, -CONH<sub>2</sub> or -NHCOR<sup>f</sup>.
30. The compound of Claim 29 wherein R<sub>3</sub> is a phenyl group substituted with zero, one or more groups selected from -CH<sub>3</sub>, -CH<sub>2</sub>CH<sub>3</sub>, -OCH<sub>3</sub>, -CN, -F or -Cl.
31. A compound represented by the following structural formula:



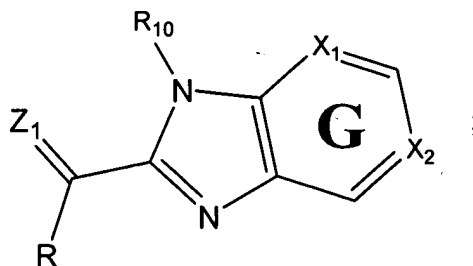
or a pharmaceutically acceptable salt thereof, wherein R<sub>12</sub> is -CH<sub>3</sub>, -CH<sub>2</sub>CH<sub>3</sub>, -OCH<sub>3</sub>, -CN, -F or -Cl.

32. A compound represented by the following structural formula:



or a pharmaceutically acceptable salt thereof, wherein  $R_{12}$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{OCH}_3$ ,  $-\text{CN}$ ,  $-\text{F}$  or  $-\text{Cl}$ .

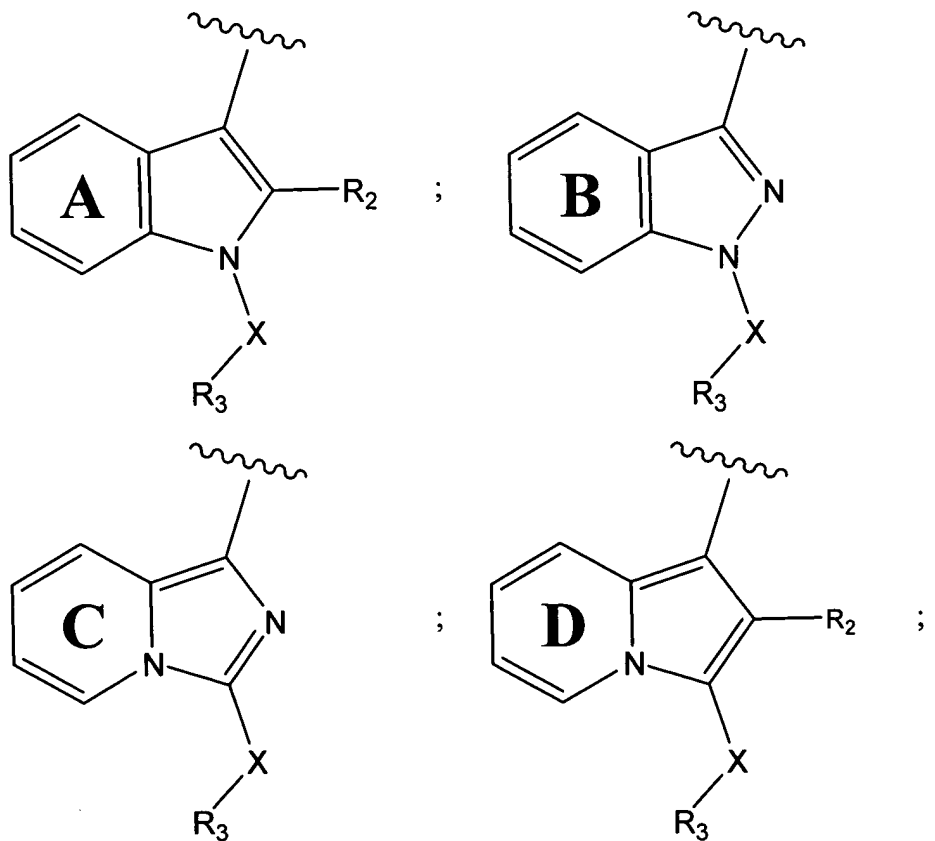
33. A compound represented by the following structural formula:

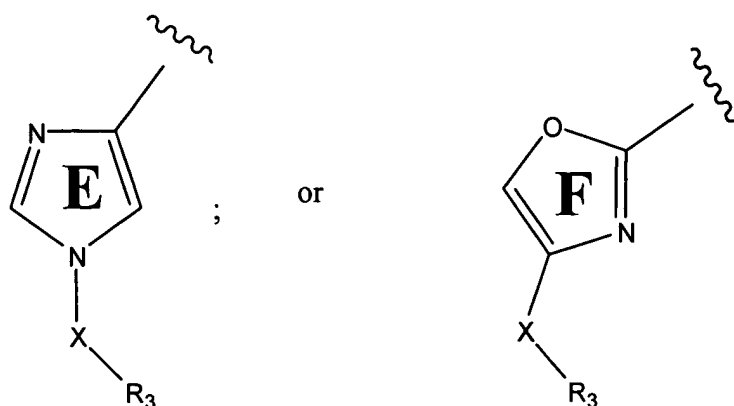


or a pharmaceutically acceptable salt thereof, wherein:

$Z_1$  is  $=\text{O}$ ,  $=\text{S}$ ,  $=\text{NOR}_{11}$  or  $=\text{NR}_{11}$

$R$  is represented by a structural formula selected from:





Rings **A-F** are independently substituted or unsubstituted and are optionally fused to an aryl group;

$R_2$  is -H or a substituted or unsubstituted alkyl group;

$R_3$  is a substituted or unsubstituted aryl group or a substituted or unsubstituted aliphatic group;

$X$  is a covalent bond,  $-C(R_4R_5)-$ ,  $-N(R_4)-$ ,  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-C(=O)-$ ,  $-C(=O)-N(R_4)-$  or  $-N(R_4)-C(=O)-$ ;

$R_4$  and  $R_5$  are independently -H, an aliphatic group or a substituted aliphatic group;

$R_{10}$  is -H, an unsubstituted aliphatic group or a substituted aliphatic group,  $-C(O)-R^g$ ,  $-S(O)_2-R^g$ ,  $-S(O)_2-N(R^g)_2$ ;

$R_{11}$  is -H or a substituted or unsubstituted alkyl group;

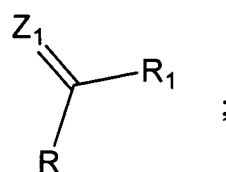
$X_1$  and  $X_2$  are independently -CH- or -N-;

Ring **G** is substituted or unsubstituted; and

each  $R^g$  is -H or a substituted or unsubstituted aliphatic group.

34. A method of treating a subject with cancer comprising the step of administering to the subject an effective amount of a compound represented by the following structural formula:

- 15 -

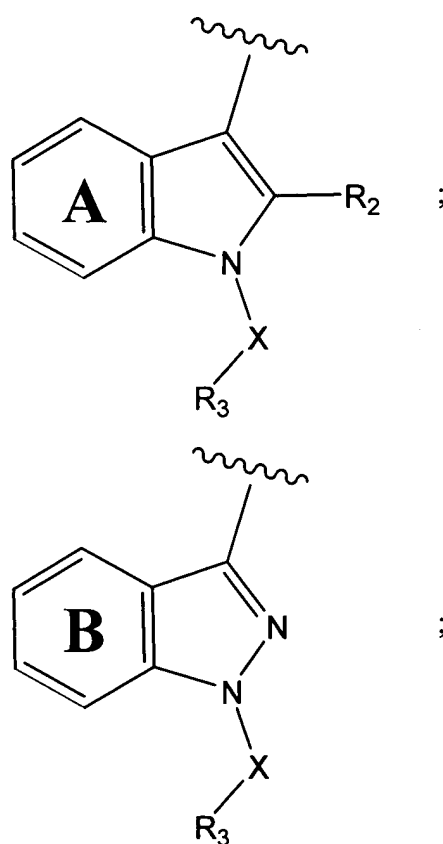


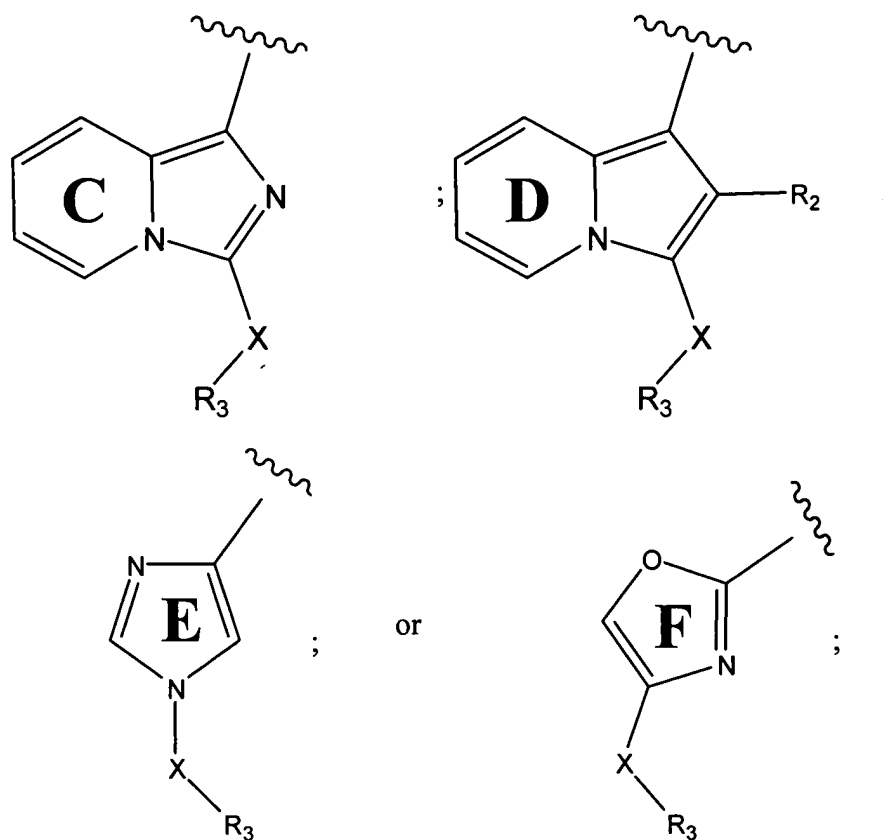
or a pharmaceutically acceptable salt thereof, wherein:

$\text{R}_1$  is a substituted or unsubstituted 2-imidazolyl group which is optionally fused to a substituted or unsubstituted aryl group;

$\text{Z}_1$  is =O, =S, =N-OR<sub>11</sub> and =NR<sub>11</sub>

R is represented by a structural formula selected from:





Rings A-F are independently substituted or unsubstituted and are optionally fused to an aryl group;

$R_2$  is -H, a substituted or unsubstituted alkyl group or a substituted or unsubstituted aryl group;

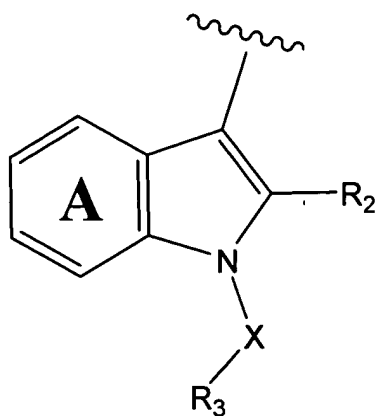
$R_3$  is a substituted or unsubstituted aryl group or a substituted or unsubstituted aliphatic group; and

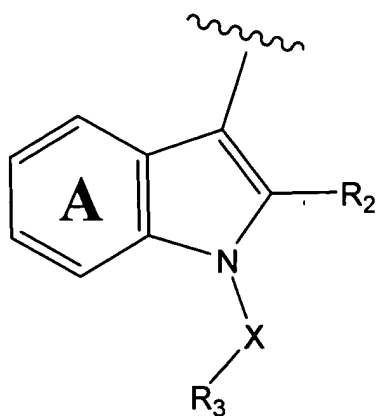
X is a covalent bond,  $-C(R_4R_5)-$ ,  $-N(R_4)-$ ,  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-C(=O)-$ ,  $-C(=O)-N(R_4)-$  or  $-N(R_4)-C(=O)-$ ;

$R_4$  and  $R_5$  are independently -H, an aliphatic group or a substituted aliphatic group; and

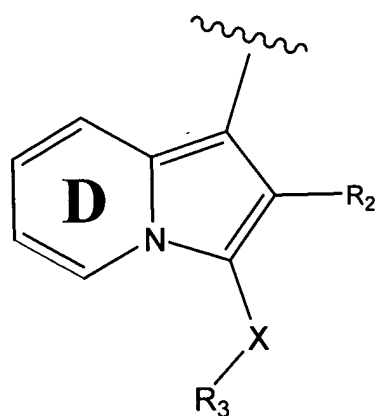
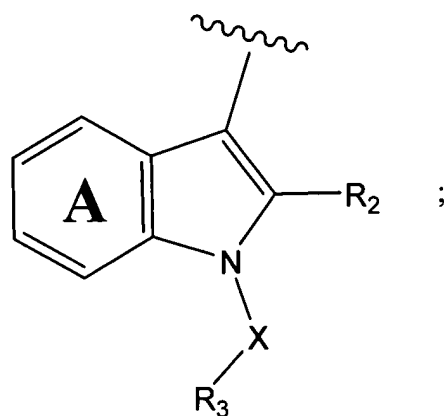
$R_{11}$  is -H or a substituted or unsubstituted alkyl group;



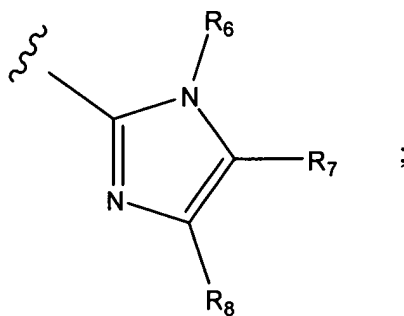


provided that when R is represented by , then X is not -S(O)- or -S(O)<sub>2</sub>- and R<sub>3</sub> is not an aliphatic or substituted aliphatic group.

35. The method of Claim 34 wherein X is a covalent bond, -C(R<sub>4</sub>R<sub>5</sub>)-, -N(R<sub>4</sub>)-, -O-, -C(=O)-, -C(=O)-N(R<sub>4</sub>)- or -N(R<sub>4</sub>)-C(=O)- and R<sub>3</sub> is a substituted or unsubstituted aryl group.
36. The method of Claim 35 wherein R is represented by a structural formula selected from:



37. The method of Claim 36 wherein Rings **A-F** are a substituted or unsubstituted phenyl group;  $R_2$  is  $-H$ ;  $Z_1$  is  $=O$ ; and  $X$  is  $-C(R_4R_5)-$ ,  $-N(R_4)-$  or  $-O-$ .
38. The method of Claim 37 wherein  $X$  is  $-C(R_4R_5)-$ .
39. The method of Claim 38 wherein  $R_1$  is represented by the following structural formula:



wherein:

$R_6$  is -H, an unsubstituted aliphatic group or a substituted aliphatic group,  $-C(O)R^g$ ,  $-S(O)_2-R^g$  or  $-S(O)_2-N(R^g)_2$ ;

$R_7$  and  $R_8$  are independently -H, -OH, -Br, -Cl, -I, -F, -OR<sup>a</sup>, -O-COR<sup>a</sup>, -COR<sup>a</sup>, -CN, -NO<sub>2</sub>, -COOH, -SO<sub>3</sub>H, -NH<sub>2</sub>, -NHR<sup>a</sup>, -N(R<sup>a</sup>R<sup>b</sup>), -COOR<sup>a</sup>, -CHO, -CONH<sub>2</sub>, -CONHR<sup>a</sup>, -CON(R<sup>a</sup>R<sup>b</sup>), -NHCOR<sup>a</sup>, -NRCOR<sup>a</sup>, -NHCONH<sub>2</sub>, -NHCONR<sup>a</sup>H, -NHCON(R<sup>a</sup>R<sup>b</sup>), -NR<sup>c</sup>CONH<sub>2</sub>, -NR<sup>c</sup>CONR<sup>a</sup>H, -NR<sup>c</sup>CON(R<sup>a</sup>R<sup>b</sup>), -C(=NH)-NH<sub>2</sub>, -C(=NH)-NHR<sup>a</sup>, -C(=NH)-N(R<sup>a</sup>R<sup>b</sup>), -C(=NR<sup>c</sup>)-NH<sub>2</sub>, -C(=NR<sup>c</sup>)-NHR<sup>a</sup>, -C(=NR<sup>c</sup>)-N(R<sup>a</sup>R<sup>b</sup>), -NH-C(=NH)-NH<sub>2</sub>, -NH-C(=NH)-NHR<sup>a</sup>, -NH-C(=NH)-N(R<sup>a</sup>R<sup>b</sup>), -NH-C(=NR<sup>c</sup>)-NH<sub>2</sub>, -NH-C(=NR<sup>c</sup>)-NHR<sup>a</sup>, -NH-C(=NR<sup>c</sup>)-N(R<sup>a</sup>R<sup>b</sup>), -NR<sup>d</sup>H-C(=NH)-NH<sub>2</sub>, -NR<sup>d</sup>-C(=NH)-NHR<sup>a</sup>, -NR<sup>d</sup>-C(=NH)-N(R<sup>a</sup>R<sup>b</sup>), -NR<sup>d</sup>-C(=NR<sup>c</sup>)-NH<sub>2</sub>, -NR<sup>d</sup>-C(=NR<sup>c</sup>)-NHR<sup>a</sup>, -NR<sup>d</sup>-C(=NR<sup>c</sup>)-N(R<sup>a</sup>R<sup>b</sup>), -NHNH<sub>2</sub>, -NHNHR<sup>a</sup>, -NHR<sup>a</sup>R<sup>b</sup>, -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NHR<sup>a</sup>, -SO<sub>2</sub>NR<sup>a</sup>R<sup>b</sup>, -CH=CHR<sup>a</sup>, -CH=CR<sup>a</sup>R<sup>b</sup>, -CR<sup>c</sup>=CR<sup>a</sup>R<sup>b</sup>, -CR<sup>c</sup>=CHR<sup>a</sup>, -CR<sup>c</sup>=CR<sup>a</sup>R<sup>b</sup>, -CCR<sup>a</sup>, -SH, -SR<sup>a</sup>, -S(O)R<sup>a</sup>, -S(O)<sub>2</sub>R<sup>a</sup>, alkyl groups, substituted alkyl group, non-aromatic heterocyclic group, substituted non-aromatic heterocyclic group, benzyl group, substituted benzyl group, aryl group or substituted aryl group;

$R^a$ - $R^d$  are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aryl or substituted aryl group, or, -N(R<sup>a</sup>R<sup>b</sup>), taken together, can also form a substituted or unsubstituted non-aromatic heterocyclic group; and

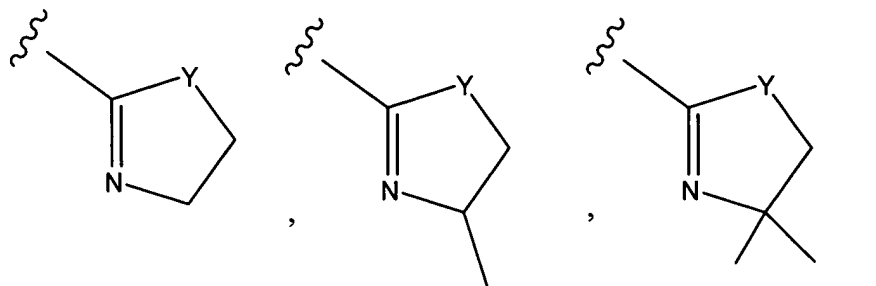
$R^g$  is -H or a substituted or unsubstituted aliphatic group.

40. The method of Claim 39 wherein:

$R_6$  is -H, C1-C4 alkyl, C1-C4 hydroxyalkyl, -(C1-C4 alkylene)-O-(C1-C4 alkylene)-tri(C1-C4 alkyl)silane,  $-S(O)_2N(C1-C4 alkyl)_2$ ,  $-S(O)_2NH(C1-C4)$  or  $-S(O)_2NH_2$ ;

$R_7$  and  $R_8$  are independently -H, C1-C4 alkyl, C1-C4 hydroxylalkyl, (C1-C4 alkyl)<sub>3</sub>-Si-O-(C1-C4 alkylene), pyridyl, C1-C4 alkyl

substituted with pyridyl, C1-C4 alkyl substituted with -NH-pyridyl, C1-C4 hydroxyalkyl substituted with -NH-pyridyl, C1-C4 hydroxyalkyl substituted with -pyridyl, -S(O)<sub>2</sub>-(phenyl), -S(O)<sub>2</sub>-(tolulyl),

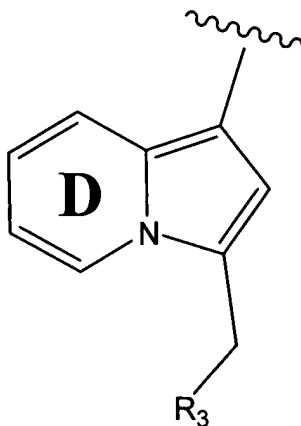


-C(O)-pyridyl, indolyl, -(C1-C4 alkylene)-O-(C1-C4 alkyl), C1-C4 alkyl substituted with -O-pyridyl, -CHO, -C(O)-O-(C1-C4 alkyl), -C(O)-NH-(C1-C4 alkyl), -C(O)-(C1-C4 alkylene)-pyridyl, oxazoliny, -C(O)-(C1-C4 alkyl), -C=N-NH-phenyl, -C(O)-NH-pyridyl, -C(O)-NH-phenyl, -C=N-NH-(C1-C4 alkyl), -C=N-N-(C1-C4 alkyl)<sub>2</sub>, -C(O)-NH-(C1-C4 alkyl), -C(O)-N-(C1-C4 alkyl)<sub>2</sub>, -C(O)-(N-morphilino), -C(O)-imidazolyl, -C(O)-NH-(C1-C4 haloalkyl), -C(O)-N-(C1-C4 haloalkyl)<sub>2</sub>, -CH<sub>2</sub>-N<sub>3</sub>, C1-C4 alkyl substituted with imidazolyl, -C1-C4 alkylene-NHC(O)-(C1-C4 alkyl), -C1-C4 alkylene-NHC(O)-(phenyl), -(C1-C4 alkylene)-NHC(O)-(tolulyl), -C1-C4- alkylene-NHC(O)-(methoxy, dimethoxy or trimethoxyphenyl) ; and

Y is -S-, -O- or -N(H or C1-C4 alkyl or substituted alkyl)-.

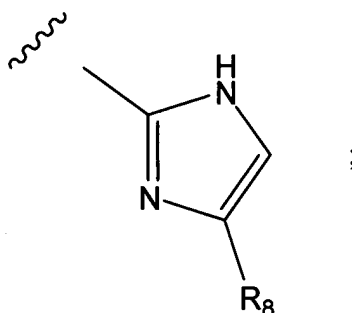
41. The method of Claim 40 wherein R<sub>4</sub> and R<sub>5</sub> are both -H; and R<sub>3</sub> is a substituted or unsubstituted phenyl or pyridyl group.
42. The method of Claim 41 wherein Rings A and D are unsubstituted or substituted with one or more groups selected from -F, -Cl, -Br, -C1-C4 alkyl, C1-C4 alkoxy, -C1-C4 haloalkyl, C1-C4 haloalkoxy, -CN or -NH<sub>2</sub>.

43. The method of Claim 42 wherein R is represented by the following structural formula:

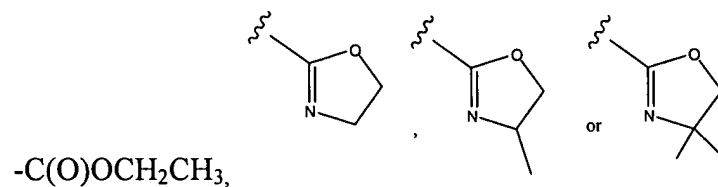


44. The method of Claim 43 wherein:  
 $R_3$  is a phenyl or pyridyl group substituted with zero, one or more groups selected from -Br, -Cl, -F,  $-R^e$ ,  $-OR^e$ , -CN,  $-COOR^e$ ,  $-N(R^e)_2$ ,  $-CON(R^e)_2$ ,  $-NR^eCOR^f$ ,  $-NHCONH_2$  and  $-SO_2 N(R^e)_2$ ;  
 and each  $R_e$  and  $R_f$  are independently selected from -H, alkyl or substituted alkyl.
45. The method of Claim 44 wherein:  
 $R_3$  is a phenyl group substituted with zero, one or more groups selected from -Cl, -F,  $-R^e$ ,  $-OR^e$ , -CN,  $-NH_2$ ,  $-CONH_2$  or  $-NHCOR^f$ .
46. The method of Claim 45 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-CH_3$ ,  $-CH_2CH_3$ , -F, -Cl, -CN or  $-OCH_3$ .
47. The method of Claim 46 wherein  $R_3$  is an unsubstituted phenyl group or a phenyl group monosubstituted with  $-CH_3$ ,  $-CH_2CH_3$ , -F, -Cl, -CN or  $-OCH_3$ , wherein the phenyl group substituent is at the *para* position.

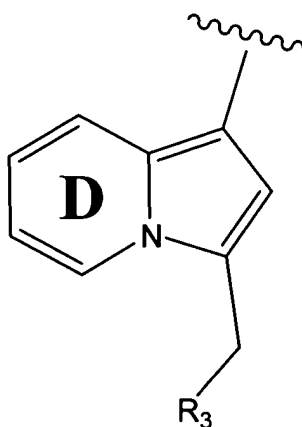
48. The method of Claim 47 wherein  $R_1$  is represented by the following structural formula:



and  $R_8$  is  $-C(O)NH_2$ ,  $-C(O)CH_3$ ,  $-C(O)CH_2CH_3$ , 2-pyridyl,  $-C(O)OCH_3$ ,



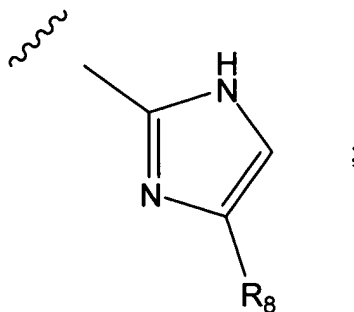
49. The method of Claim 48 wherein Ring A is unsubstituted.
50. The method of Claim 42 wherein R is represented by the following structural formula:



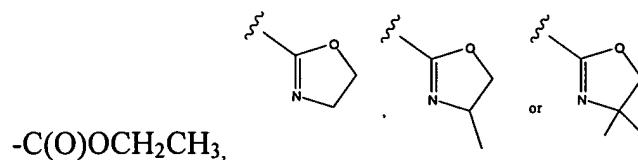
51. The method of Claim 49 wherein  $R_3$  is a phenyl or pyridyl group substituted with zero, one or more groups selected from  $-Br$ ,  $-Cl$ ,  $-F$ ,  $-R^e$ ,  $-OR^e$ ,  $-CN$ ,  $-COOR^e$ ,  $-N(R^e)_2$ ,  $-CON(R^e)_2$ ,  $-NR^eCOR^f$ ,  $-NHCONH_2$  and  $-SO_2 N(R^e)_2$ ;

and each  $R^e$  and  $R^f$  are independently selected from -H, alkyl or substituted alkyl.

52. The method of Claim 51 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from -Cl, -F,  $-R^e$ ,  $-OR^e$ , -CN,  $-NH_2$ ,  $-CONH_2$  or  $-NHCOR^f$ .
53. The method of Claim 52 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-CH_3$ ,  $-CH_2CH_3$ , -F, -Cl, -CN or  $-OCH_3$ .
54. The method of Claim 53 wherein  $R_3$  is an unsubstituted phenyl group or a phenyl group monosubstituted with  $-CH_3$ ,  $-CH_2CH_3$ , -F, -Cl, -CN or  $-OCH_3$ , wherein the phenyl group substituent is at the *para* position.
55. The method of Claim 54 wherein  $R_1$  is represented by the following structural formula:

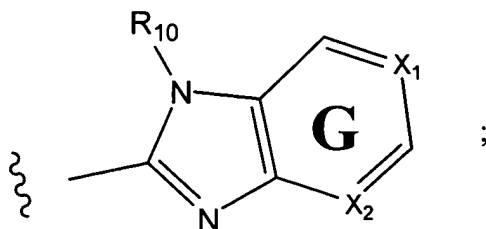


and  $R_8$  is  $-C(O)NH_2$ ,  $-C(O)CH_3$ ,  $-C(O)CH_2CH_3$ , 2-pyridyl,  $-C(O)OCH_3$ ,



56. The method of Claim 55 wherein Ring **D** is unsubstituted.

57. The method of Claim 34 wherein  $R_1$  is represented by the following structural formula:



wherein:

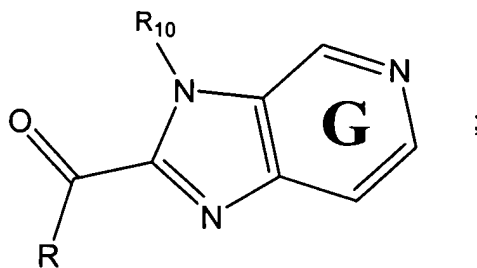
$R_{10}$  is -H, an unsubstituted aliphatic group or a substituted aliphatic group, -C(O)- $R^g$ , -S(O)<sub>2</sub>- $R^g$ , -S(O)<sub>2</sub>-N( $R^g$ )<sub>2</sub>;

$X_1$  and  $X_2$  are independently -CH- or -N-;

Ring **G** is substituted or unsubstituted; and

each  $R^g$  is -H or a substituted or unsubstituted aliphatic group.

58. A method of treating a subject with cancer wherein the method comprises administering to the subject an effective amount of a compound represented by the following structural formula:



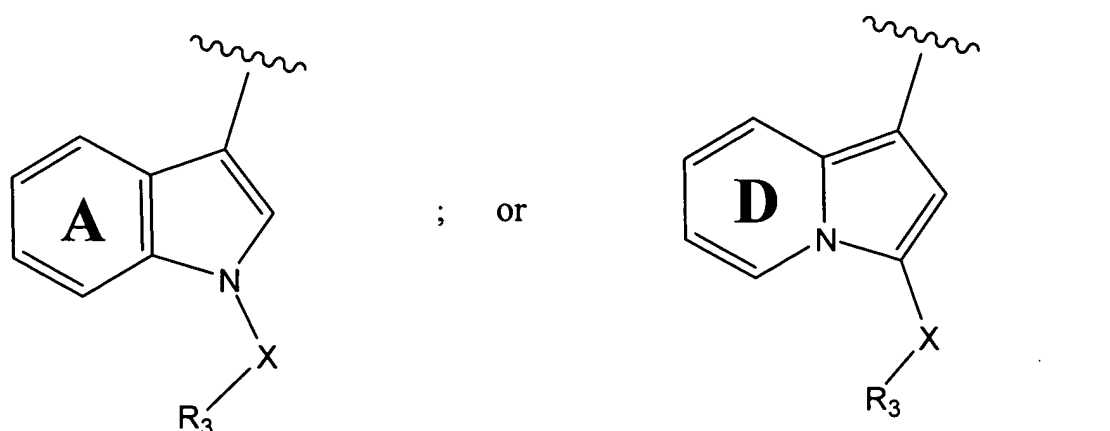
or a pharmaceutically acceptable salt thereof, wherein:

Ring **G** is substituted or unsubstituted;

$R_{10}$  is -H or a C1-C4 alkyl group;

**R** is represented by a structural formula selected from:





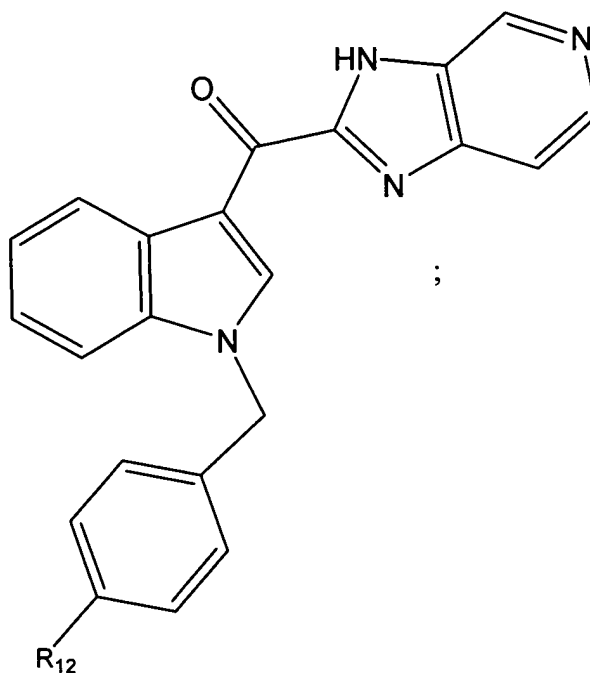
wherein Rings **A** and **D** are substituted or unsubstituted; **X** is  $-\text{C}(\text{R}_4\text{R}_5)-$ ,  $-\text{O}-$  or  $-\text{NR}_4-$ ; and  $\text{R}_3$  is a substituted or unsubstituted phenyl or pyridyl group.

59. The method of Claim 58 wherein **X** is  $-\text{C}(\text{R}_4\text{R}_5)-$ .
60. The method of Claim 59 wherein **X** is  $-\text{CH}_2-$  and Ring **G** is unsubstituted.
61. The method of Claim 58 wherein:
 

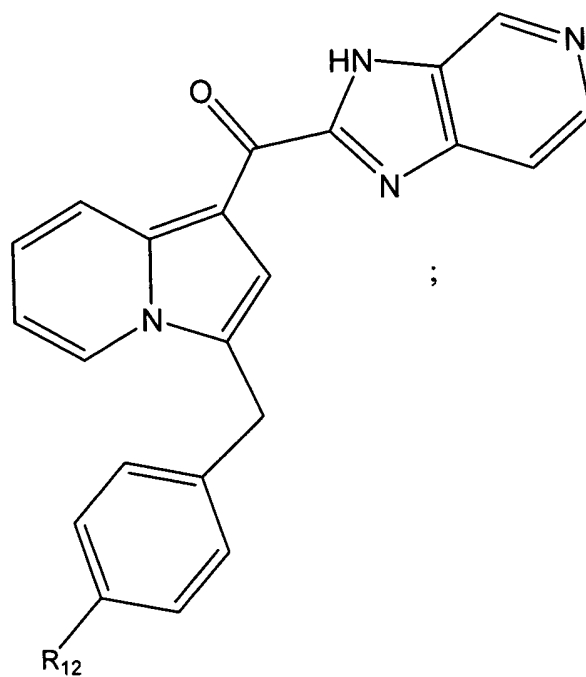
Rings **A** and **D** are unsubstituted or substituted with one or more substituents selected from  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $\text{C1-C4}$  alkyl,  $\text{C1-C4}$  alkoxy,  $\text{C1-C4}$  haloalkyl,  $\text{C1-C4}$  haloalkoxy,  $-\text{CN}$  or  $-\text{NH}_2$ ;

$\text{R}_3$  is a phenyl or pyridyl group substituted with zero, one or more groups selected from  $-\text{Br}$ ,  $-\text{Cl}$ ,  $-\text{F}$ ,  $-\text{R}^e$ ,  $-\text{OR}^e$ ,  $-\text{CN}$ ,  $-\text{COOR}^e$ ,  $-\text{N}(\text{R}^e)_2$ ,  $-\text{CON}(\text{R}^e)_2$ ,  $-\text{NR}^e\text{COR}^f$ ,  $-\text{NHCONH}_2$  and  $-\text{SO}_2\text{N}(\text{R}^e)_2$ ; and each  $\text{R}^e$  and  $\text{R}^f$  are independently selected from  $-\text{H}$ , alkyl or substituted alkyl.
62. The method of Claim 61 wherein  $\text{R}_3$  is a phenyl group substituted with zero, one or more groups selected from  $-\text{Cl}$ ,  $-\text{F}$ ,  $-\text{R}^e$ ,  $-\text{OR}^e$ ,  $-\text{CN}$ ,  $-\text{NH}_2$ ,  $-\text{CONH}_2$  or  $-\text{NHCOR}^f$ .

63. The method of Claim 61 wherein  $R_3$  is a phenyl group substituted with zero, one or more groups selected from  $-CH_3$ ,  $-CH_2CH_3$ ,  $-OCH_3$ ,  $-CN$ ,  $-F$  or  $-Cl$ .
64. A method of treating a subject with cancer wherein the method comprises administering to the subject an effective amount of a compound represented by the following structural formula:



- or a pharmaceutically acceptable salts thereof, wherein  $R_{12}$  is  $-CH_3$ ,  $-CH_2CH_3$ ,  $-OCH_3$ ,  $-CN$ ,  $-F$  or  $-Cl$ .
65. A method of treating a subject with cancer wherein the method comprises administering to the subject an effective amount of a compound represented by the following structural formula:



or a pharmaceutically acceptable salt thereof, wherein R<sub>12</sub> is -CH<sub>3</sub>, -CH<sub>2</sub>CH<sub>3</sub>, -OCH<sub>3</sub>, -CN, -F or -Cl.

66. The method of Claim 65 wherein the cancer is multi-drug resistant.